

REMARKS

Claims 1-13 are pending and under consideration. Claim 1 was amended herein. Support for the amendments to the claims may be found in the claims as originally filed. This amendment is believed to place the application in condition for allowance, and entry therefore is respectfully requested. In the alternative, entry of this amendment is requested as placing the application in better condition for appeal by, at least, reducing the number of issues outstanding. Further reconsideration is requested based on the foregoing amendment and the following remarks.

Response to Arguments:

The Applicants appreciate the consideration given to their arguments, the withdrawal of the objections and the indefiniteness rejections, and the new grounds of rejection. The Applicants, however, were disappointed to find that their arguments with respect to Tajiri were not persuasive. The final Office Action asserts in section 3, in the last paragraph at page 2, that:

The Examiner would like to point out column 6, line64 - col. 7, line3. - It states that the transmitting facsimile (30) packetizes TSI information, considered as identification information and sends this information to the other Fax (120) via the Internet faxes (10) and (110). It is clear in this section that the two gateways communicate with each other with the TSI information. This can be seen in figure 5A as well.

As discussed more fully below, Tajiri's gateway, i.e. the Internet fax, merely *conveys* data which were received immediately before hand. In particular, as described at column 7, lines 4-9:

Subsequently, as shown in FIG. 5B, the receiving G3 FAX 120 sends two commands Flags and CFR (Confirmation to Receive) to the Internet FAX 110. The Internet FAX 110 packetizes the received commands into three packets (11 through 13) and sends them to the sending G3 FAX 30 via the Internet FAX 10 as reconstructed commands.

In the claimed invention, on the other hand, the gateways communicate without simply conveying the fax machine signals. Instead, after terminating the signals, the gateways communicate on the basis of *previously* received data, which *have* been terminated. The gateway of Tajiri, which simply conveys signals, is to be contrasted with the gateways of the claimed invention which communicate (in a first phase) with their respective gateways and, in a second phase, communicate with each other. In the second phase of the claimed invention, in

particular, communication of the gateways with their respective fax machines is not taking place, or, in other words, has already terminated. Further reconsideration is thus requested.

Claim Rejections - 35 U.S.C. § 103:

Claims 1 and 3-8 were rejected under 35 U.S.C. § 103(a) as being unpatentable over the section of the subject application entitled "Background of the Invention" (hereinafter "the Background"), to which the final Office Action refers as "Admitted Prior Art," in view of U.S. Patent No. 6,975,420 to Tajiri et al. (hereinafter "Tajiri") and US Patent Application Publication No. 2002/0001373 to Sakurai (hereinafter "Sakurai"). The rejection is traversed to the extent it would apply to the claims as amended. Reconsideration is earnestly solicited.

There are three phases in the timing of connecting fax machines:

In a first phase, a signaling connection is set up. This phase is completed at the time t_5 , as shown in Fig. 1A. Basically, the signaling connection will exchange the status of components, such as "connected," "busy," and so on.

In a second phase, a payload connection is set up. This phase is completed at time t_{13} , as shown in Fig. 1B. An established payload connection is a prerequisite for an exchange of payload data, such as voice as in an ordinary phone call, or, in our case, an exchange of "fax beep tones."

Finally, in a third phase, a transmission-controlling connection is set up between the two faxes according to the fax protocol. This phase starts at time t_{14} , as shown in Fig. 1B.

The underlying problem solved by the claimed invention can be described as follows: after a successful connection setup of a signaling level has come to an end, the receiving fax machine, i.e. second fax machine FG2, is "going off-hook." This happens upon the arrival of a "connect" message, which is not shown, and which is sent from the second fax machine FG2 to the second network unit NU2. The "connect" message clearly reports "going off-hook" of the second fax machine FG2.

The point in time when the second fax machine goes off hook is *indefinable* and happens at a time that is earlier than the time t_{10} . The fax machine FG2, which is in off-hook state is, as a consequence, starting to send a Called Terminal Identification (CED) signal. CED signals are sent by a called fax machine in order to indicate that the fax machine is in the transmission-controlling phase. The start of the sending of the CED signal may be (according to the ITU-T

standard T. 30) delayed by a definable period of time. Thus, the receiving fax is already in a condition for a transmission-controlling connection, i.e. for establishing the fax connection but the sending fax machine is not yet ready.

It is possible to compensate for this problem by adjusting the delay, i.e. the period of time that lapses between "going off-hook" of the second fax machine FG2 and sending of the CED signals. Since the procedural steps that follow require a considerable amount of time, i.e. approximately 7 seconds, before the first fax machine FG1 changes over to the transmission-controlling connection mode, the delay in sending the CED would be adjusted to that time.

The problem inherent in the delay in sending the CED was recognized by the inventor. Tajiri, on the other hand, did not appreciate any problem in the concept of correct timing. The reason for that is that Tajiri, as shown in Fig. 5A, obviously *starts* the contemplation of the fax transmission beginning with sending the CED from the *receiving* side. Tajiri, consequently, is not aware of any problem that arises by a synchronization of different phases between data gateways and fax machines.

Sakurai, on the other hand, was aware of the problem. However, as is apparent by paragraph [0012], Sakurai's solution is based on a conventional delay of 75 plus/-20 ms comparable to the suggested, however larger, period of seven seconds discussed above. Hence, neither the seven second delay discussed above, nor Sakurai, are able to solve the problem of the CED not being transmitted in a manner that can be synchronized with control messages exchanged by the fax gateways and other components.

According to the claimed invention, on the other hand, a start is not made at the receiving side in setting up the connection between the receiving second fax machine FG2 and the second data gateway DG2 until setting up of a connection between the first data gateway DG1 of the first fax machine FG1 has been fully concluded at the time t16, which is initiated by arrival of the message 144 the second data gateway DG2. At the time when the second data gateway DG2, which is itself behaving like a fax machine, sends its initializing data, namely the "Calling Tone" (CNG) signal, the arrangements required according to the T.30 standard for the fax connection setup that is to be established are consequently superimposed on the CNG signal, because the recipient fax has already sent the CID signal at this time and begun sending its configuration data. The super imposition cannot be securely prevented by the above discussed

seven second delay of the CED signal following "going off-hook" because the arrival time of the CNG message cannot be specified or predicted on a defined basis.

According to the claimed invention, however, when a fax connection is to be established between the calling first fax machine and a called second fax machine, a payload connection is set up between the gateways. After a successful set up with a payload connection, a fax connection is set up (the recited "transmission-controlling connection") between the first fax machine in the first data gateway, and between the second fax machine in the second data gateway. Finally, *after having* the transmission-controlling connections between the fax machines in its respective data gateways *successfully established*, a control message containing identification information of the sending first fax machine FG1 is transmitted from the first data gateway to the second data gateway. The second and third clauses of claim 1, in particular, recite:

Terminating sent data of the first fax machine at a first data gateway belonging to the first communication facility.

And:

Terminating sent data of the second fax machine at a second data gateway belonging to the second communication facility.

The recited "terminating" is a term used in the technical world for a communication between two communication end points in which the sent data are not conveyed but in which the communication is "terminated" or "completed" at the communication end points. A description of this function of the data gateway as communication end point may be found at paragraph [0015] of the specification.

The fourth clause of claim 1, moreover, recites:

Setting up a payload data connection between the first and second data gateways.

Thus, a user data connection (payload connection) is established between the two data gateways. Therein, a user data connection means a voice channel appropriate for the transmission of transmission controlling T.30 signals.

Subsequently, a transmission controlling connection is established between the calling and the answering fax machines and their respective assigned data gateways. A transmission controlling connection means again an exchange of T.30 signals. The transmission-controlling

connection between the second fax machine and second data gateway is preferably set up synchronously with the transmission-controlling connection between the first fax machine and the first data gateway, as recited in claim 2. Time delays, however, could arise since this operation is not synchronized, and the timing could therefore depend on technical deviations.

The final clause of claim 1 recites:

After setting up the transmission-controlling connection between the second fax machine and the second gateway, transmitting identification information of the sending first fax machine from the first data gateway to the second data gateway.

Neither the Background, Tajiri, nor Sakurai teach, disclose, or suggest “after setting up the transmission-controlling connection between the second fax machine and the second gateway, transmitting identification information of the sending first fax machine from the first data gateway to the second data gateway,” as recited in claim 1. Thus, the identification data of the sending first fax machine, are not exchanged between the two fax machines but between the first and the second data gateway.

The final Office Action acknowledges this deficiency with respect to the Background in section 5, in the first full paragraph at page 6, and attempts to compensate for it by combining the Background with Tajiri and Sakurai. As shown in Figure 5a of Tajiri, however, in contrast to the claimed invention, the identity data of the sending fax machine (c.f. TSI, transmitting subscriber identification) is *conveyed* by the calling fax machine via the data gateway (Internetfax) to the called-up fax 120. Thus, Tajiri is not “transmitting identification information of a sending fax machine from the first data gateway to the second data gateway” either, and cannot make up for the deficiencies of the Background with respect to claim 1.

Sakurai, for its part, transmits a preamble signal 432 following a no-signal state 450 of 75.+-.20 ms after transmitting the CED signal 431, as discussed above. In particular, as described in paragraph [0012]:

After transmitting the CED signal 431, the incoming call side G3 facsimile apparatus 2202 transmits a preamble signal 432 following a no-signal state 450 of 75.+-.20 ms. The incoming gateway apparatus 1202 transmits preamble data 422 by an IFP packet.

Since Sakurai transmits a preamble signal 432 following a no-signal state 450 of 75.+-.20 ms after transmitting the CED signal 431, Sakurai is not “after setting up the transmission-controlling connection between the second fax machine and the second gateway, transmitting

identification information of the sending first fax machine from the first data gateway to the second data gateway” either, and thus cannot make up for the deficiencies of either the Background are Tajiri with respect to claim 1.

Sakurai, moreover, hopes that a transmission delay occurs which is generally longer than that occurring in a telephone switched network, as discussed above. In particular, as described further in paragraph [0012]:

At this point, since an IP network 200 is provided between the incoming side gateway apparatus 1202 and the outgoing side gateway apparatus 1201, transmission delay occurs which is generally longer than that occurring in a telephone switched network. When a delayed time of the IP network at a time t is assumed to be $T_d(t)$ ms, it takes $T_d(t)$ ms for the IFP packet of the preamble data 422 to reach the outgoing side gateway apparatus 1201.

Since Sakurai hopes that a transmission delay occurs which is generally longer than that occurring in a telephone switched network, Sakurai is not “after setting up the transmission-controlling connection between the second fax machine and the second gateway, transmitting identification information of the sending first fax machine from the first data gateway to the second data gateway” either, and thus cannot make up for the deficiencies of either the Background are Tajiri with respect to claim 1. Therefore, even if the Background, Tajiri and Sakurai were combined, as proposed in the final Office Action, the claimed invention would not result. Claim 1 is submitted to be allowable. Withdrawal of the rejection of claim 1 is earnestly solicited.

Claims 3-8 depend from claim 1 and add additional distinguishing elements. Claims 3-8 are thus also submitted to be allowable. Withdrawal of the rejection of claims 3-8 is earnestly solicited.

Claims 2 and 9-13:

Claims 2 and 9-13 were rejected under 35 U.S.C. § 103(a) as being unpatentable over the Background, Tajiri and Sakurai in view of U.S. Patent No. 6,480,585 to Johnson (hereinafter “Johnson”). The rejection is traversed to the extent it would apply to the claims as amended. Reconsideration is earnestly solicited.

Claims 2 and 9-13 depend from claim 1 and add further distinguishing elements. Neither the Background, Tajiri, nor Sakurai teach, disclose, or suggest “after setting up the transmission-controlling connection between the second fax machine and the second gateway, transmitting

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identification information of a sending fax machine from the first data gateway to the second data gateway," as discussed above with respect to the rejection of claim 1. Johnson does not either, and thus cannot make up for the deficiencies of either the Background of Tajiri with respect to claims 2 or 9-13.

Claims 2 and 9-13 are thus also submitted to be allowable. Withdrawal of the rejection of claims 2 and 9-13 is earnestly solicited.

Conclusion:

Accordingly, in view of the reasons given above, it is submitted that all of claims 1-13 are allowable over the cited references. Allowance of all claims 1-13 and of this entire application is therefore respectfully requested.

If there are any formal matters remaining after this response, the Examiner is requested to telephone the undersigned to attend to these matters.

If there are any additional fees associated with filing of this Amendment, please charge the same to our Deposit Account No. 19-3935.

Respectfully submitted,

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